



Alpha Magnetic Spectrometer
NASA / DOE

Alpha Magnetic Spectrometer Weekly Reports

July 1, 2004



National Aeronautics and
Space Administration

Upcoming Events:

- AMS Electronics TIM at CSIST - July 5-9, 2004 – Taiwan
- AMS General TIM - July 19 - 23, 2004 - CERN Geneva, Switzerland
- Thermal Control System (TCS) Delta Critical Design Review (Δ CDR) - Postponed (Schedule under review) - Location TBD
- AMS-02 Phase II Safety Review - Fall 2004 (Schedule under review) - JSC
- STA Vacuum Case Delivery (on dock at STADCO) - October 13, 2004
- Flight Vacuum Case Delivery (on dock at STADCO) - November 13, 2004
- AMS General TIM - October 18 - 22, 2004 – JSC
- AMS General TIM - January 10 - 14, 2005 – KSC
- AMS-02 Avionics Functional Interface Test (FIT) - January 2005

Upcoming Tests:

- O-Ring Test Fixture (OTF) Vacuum Test - On going - J13
- STA Acoustic Test - Date TBD - ESTEC - Noordwijk, Netherlands (Schedule under review)
- STA Sine Sweep Test - Date TBD - INFN - Terni, Italy (Schedule under review)
- Full Assembly Modal & Static Tests - Date TBD - IABG - Munich, Germany
- Interface Plate Static Test - Date TBD - Location TBD
- Lower Joint Static Test - Date TBD - Location TBD



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Status:

- Lockheed Martin (LM) AMS Project Management continue to work issues related to the moving of the project from SM/Mission and Project Management Office to EA/Engineering Directorate. The Project Technical Requirements Specification (PTRS) for the Payload Integration Hardware (PIH) was updated based on inputs from the EA Project Manager and uploaded to the web site for the Re-baselining Review. Updated text and new figures were added to SSP 57213, AMS-02 Hardware Interface Control Document (ICD). The revised ICD was provided to the Boeing ISS AMS Payload Integration Manager (PIM) for baselining the document. The Vacuum Case ICD was reviewed and a list of recommended changes was compiled to support the re-baselining effort. Review Item Discrepancies (RIDs) from the Re-baselining Review are being addressed as they are submitted. A plan and agenda for the Re-baselining Review Outbrief was prepared. Inputs to the Information Technology (IT) Plan were submitted to and approved by EA. The approved IT Plan includes the laptops required to support the development of the Digital Data Recording System - 02 (DDRS-02) used in the Shuttle phase of the mission.
- LMSO AMS personnel supported the AMS-02 Cryomagnet Avionics Box (CAB) Technical Interchange Meeting (TIM) in Madrid, Spain, June 28 - 30.
- The LMSO Quality Engineer (QE) supporting AMS traveled to Winterthur, Switzerland to review the Quality Records System for the AMS super-fluid helium (SFHe) tank welding being performed by Hans Bieri Engineering (HBE). Preliminary reports from the QE in Winterthur indicate that all the required weld records are available at HBE, however traceability of weld records is not intuitive. The remaining time at HBE will be spent improving links between applicable records to ensure that traceability is maintained.
- The Thermal Control System (TCS) Delta Critical Design Review (Δ CDR) was postponed from its original schedule of July 26 & 27. A new date for the Δ CDR will be set at the AMS General TIM later this month.
- The O-Ring Test Fixture (OTF) continues to be pumped down in Building 13. The latest vacuum reading indicates a level of 4.0×10^{-7} torr. The pump down will continue until the vacuum level stabilizes, at which point, helium leak checks will begin.
- LMSO was informed by STADCO that a chamfer on both the Upper and Lower Support Rings was applied to the entire outer diameter instead of just the four Interface Plate locations, as called out on the drawing. It is currently under review by LMSO but a first look indicates that it will not be a problem. STADCO will submit cause and corrective action with the discrepancy.
- The Vacuum Case Test Fixture (VCTF) drawings are currently in engineering review. The drawings and models are being updated to incorporate recent design changes.



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- Vacuum Case Milestones
 - Weld Fixture Complete - May 2004
 - Shipping Fixture Complete - May 2004
 - STA Support Rings Complete - May 2004
 - Weld Development - March 2004 - June 2004
 - Flight Support Rings Complete - June 2004
 - First Article Weld Complete - June 2004
 - STA Conical Flanges Complete - July 2004
 - STA Line Drill Operations Complete - July 2004
 - Flight Conical Flanges Complete - August 2004
 - STA Match Drill Procedure Complete - August 2004
 - STA Weld Complete (for proof test @ STADCO) - August 2004